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Mr. Chairman and members of the Subcommittee, I am Barry Breen, Deputy Assistant Administrator for the Office of Solid Waste and Emergency Response at EPA. Thank you for inviting me to appear today to discuss electronics waste and EPA's interest in electronics product design and recycling. Last year, we appeared before this Subcommittee to tell you about the Resource Conservation Challenge (RCC). In 2002, we set in motion a plan of action to renew the emphasis on resource conservation in the Resource Conservation and Recovery Act (RCRA). At least since 1976, RCRA has included among its purposes a goal to reverse the trend of "millions of tons of recoverable material which could be used [being] needlessly buried each year."

Today, the RCC has become a national program, challenging all of us to promote recycling and reuse of materials and to conserve resources and energy. One key area of focus is electronics.

The use of electronic equipment has grown substantially in recent years. According to the Consumer Electronics Association (CEA), Americans own some 2 billion electronic products – about 25 products per household. Electronics sales grew by 11% in 2004, and the same growth is expected again this year.

Why We Care About Electronics at EPA:

EPA has been actively involved in helping to improve the design and recovery of electronics for more than eight years now. Our interest in electronics stems from three primary concerns:

1) the rapid growth and change in this product sector, leading to a constant stream of changing offerings and wide array of obsolete and discarded products needing an appropriate response;

2) substances of concern present in many products which can cause problematic exposures during manufacturing, recycling or disposal if not properly managed – the presence of these constituents has sparked the search for workable substitutes and development of better management practices; and

3) the desire to help encourage development of a convenient and affordable reuse/recycling infrastructure for electronics, with an initial emphasis on TVs and PCs.

Here I would like to provide some illustrative facts:

1. Increasing volume of electronic waste: Consumer Electronics – including TVs and other video equipment, audio equipment and personal computers, printers and assorted peripherals – make up about 1.5% of the municipal solid waste stream (2003 Figures). This is a small, but growing percent of the waste stream. Consumer electronics have increased as a percent of municipal solid waste in each of the last few years that EPA has compiled data.

2. Recycling is limited: EPA's latest estimates are that in 2003 approximately 10% of consumer electronics were recycled domestically, up slightly over previous years. The remaining 90% of used consumer electronics are in storage, disposed of in landfills or incinerators, or exported for reuse or recycling. EPA is now taking a closer look at the fate of all electronics waste such that the Agency can better account for the amount of electronic waste stored, disposed, or exported. But anecdotal information suggests that nontrivial amounts of consumer electronics are in storage or exported, rather than going to disposal in landfills.

3. Substances of concern in electronics: While industry is making progress in making its products with less toxic materials, many products may contain substances of concern such as lead, mercury and/or cadmium. For example, older cathode ray tubes (monitors) in TVs and PCs contain on average 4lbs of lead, although there are lower amounts of lead in newer CRTs. These constituents do not present risks to users while the product is in use; indeed, they are there for a

good reason. Lead shields users from electromagnetic fields generated while the monitor is operating. Mercury is used in backlights in flat panel displays to conserve energy. But the presence of these materials means that some electronic equipment may present a risk if not properly managed.

What We Are Doing About Electronics:

We are engaged in several broad scale partnerships with manufacturers, retailers, other Federal agencies, state and local governments, recyclers, non-government organizations (NGOs) and others to encourage and reward greener design of electronic products, to help develop the infrastructure for collection and reuse/recycling of discarded electronics, and to promote environmentally safe recycling of used electronics. I'd like to give you a little more detail about each of these efforts.

1) Greening Design of Electronics

EPEAT: EPA funded and participated in a multistakeholder and consensus-based process, involving electronics manufacturers, large government IT purchasers, NGOs and others, to develop the Electronics Product Environmental Assessment Tool (EPEAT). It was created to meet growing demand by large institutional purchasers for a means to readily distinguish greener electronic products in the marketplace. EPEAT is modeled on other environmental rating tools like the LEED's Green Building Rating system. It is expected to gain wide acceptance in purchases of information technology equipment by federal and state government – and eventually by other large institutional purchasers of IT equipment.

The EPEAT rating system establishes performance criteria in eight categories of product performance, including reduction or elimination of environmentally sensitive materials; design for end of life; life cycle extension; energy conservation; and end of life management.

The multi-stakeholder team that developed EPEAT has reached agreement on the main criteria that will be recognized for environmental performance. Now, the tool is being readied for use; as

part of this effort, a third party organization will be selected to host and manage the tool. The aim is to have the EPEAT system up and running by December 2005 or January 2006 – at which time manufacturers will be able to certify their products to the EPEAT requirements and purchasers will be able to find EPEAT certified products in the marketplace. The first EPEAT certified products will be desktop computers, laptops and monitors.

ENERGY STAR: EPA recently made its best known brand, the ENERGY STAR label, available for external power adapters that meet EPA's newly established energy efficiency guidelines. Power adapters, also known as external power supplies, recharge or power many electronic products – cell phones, digital cameras, answering machines, camcorders, personal digital assistants (PDA's), MP3 players, and a host of other electronics and appliances. As many as 1.5 billion power adapters are currently used in the United States – about five for every American.

Total electricity flowing through external and internal power supplies in the US is about 207 billion kWh/year. This equals about $17 billion a year, or six percent of the national electric bill. More efficient adapters have the potential to save more than 5 billion kilowatt hours (kWh) of energy per year in this country and prevent the release of more than 4 million tons of greenhouse gas emissions. This is the equivalent of taking 800,000 cars off the road.

On average, ENERGY STAR-qualified power adapters will be 35 percent more efficient. EPA is promoting the most efficient adapters since they are commonly bundled with so many of today's most popular consumer electronic and information technology products.

DESIGN FOR THE ENVIRONMENT (DfE): Over the years, EPA's DfE program has worked numerous times with the electronics industry to help green the manufacturing of electronics as well as electronics products themselves. DfE has worked with the industry on ways to green the manufacture of printed wiring boards, assessed the life cycle impacts of CRTs and flat panel displays and has also recently assessed the life cycle impacts of tin-lead and lead-free solders used in electronics.

One important ongoing project in this DfE realm is the joint government industry search for substitutes for tin-lead solder that have acceptable engineering performance and environmental attributes.

The DfE Lead-Free Solder Partnership is providing the opportunity to mitigate current and future risks by assisting the electronics industry to identify alternative lead-free solders that are less toxic, and that pose the fewest risks over their life cycle.

The draft final life-cycle assessment report for the tin-lead and alternative solders is available now for public review.

2) Encouraging reuse and recycling, rather than disposal, at product end of life

Plug-In To eCycling: Plug-In To eCycling is a voluntary partnership to increase awareness of the importance of recycling electronics and to increase opportunities to do so in the United States. Through Plug-In, EPA has partnered with 21 manufacturers and retailers of consumer electronics as well as 26 governments to provide greater access to electronics recycling for Americans. In the first two years, the Plug In program has seen the recycling of 45.5 million pounds of unwanted electronics by program partners – all of whom have agreed to rely on recyclers who meet or exceed EPA's "Guidelines for Materials Management," EPA's voluntary guidelines for safe electronics recycling.

Last year, we launched a number of pilot programs with manufacturers, retailers and local governments to create more compelling opportunities for consumers to drop off our old electronics. These pilots succeeded in collecting over 11 million pounds of used electronics and demonstrating that, when the circumstances are right, retail collection can be a successful model:

· The Staples pilot in New England collected over 115,000 pounds in testing in-store collection and "reverse distribution" making use of Staples existing distribution network. In this pilot, trucks dropping off new equipment at Staples stores removed electronics that had been dropped off and took them to Staples distribution centers rather than leaving the stores with the trucks empty.

· The Good Guys pilot in the Seattle area collected over 4,000 TVs – double the quantity expected – by offering in-store take back and a low fee for drop-off countered by a purchase rebate.

· Office Depot and Hewlett-Packard worked together to offer free in-store takeback of consumer electronics in all 850 Office Depot stores for a limited time period. It resulted in 10.5 million pounds collected, more than 441 tractor trailer loads.

We believe these and other pilots sponsored by industry, states, and recyclers are generating critical data which will inform policymaking on electronics recycling. These pilots have proved crucial to testing out what works, what doesn't, where collaboration is possible and where it is not, what kinds of opportunities really get the attention of the consumer and what kind of material the consumer wants to recycle. And very importantly, what it costs to get electronics from the consumer into responsible recycling.

Federal Electronics Challenge: The Federal Government is a large purchaser of IT products. To help the Federal government lead by example the Federal Environmental Executive and the EPA launched the Federal Electronics Challenge (FEC). The FEC is a voluntary partnership program designed to help federal agencies become leaders in promoting sustainable environmental stewardship of their electronic assets. As FEC Partners, federal agencies agree to set and work toward goals in one or more of the three electronics life-cycle phases – acquisition & procurement; operations & maintenance; and end-of-life management. As of this month, the FEC has 54 partners representing facilities from 12 Federal agencies. All 12 Federal agencies are signatories to a national Memorandum of Understanding on Electronics Management and, in total, represent about 83% of the Federal government's IT purchasing power.

Recent National Electronics Meeting: Last spring, EPA hosted a National Electronics Meeting to take stock of where we are with our electronics programs and talk with stakeholders about what else is needed. The goal of the meeting was to identify collaborative strategies that will contribute to effective management of used electronics across the country. Nearly 200

representatives from industry, government, and the non-profit community participated in this meeting.

A few of the collaborative strategies being developed include the following:

· Developing standards for environmentally safe electronics recyclers and a process for certifying these recyclers. EPA plans to take a leadership role in convening stakeholders to develop such standards.

· Further development of a centralized data repository for electronics recycling to collect nationwide market data/share by manufacturers and provide information and status on national, state and local e-waste initiatives (provides data on waste, geographic summaries and process/implementation data). This effort is being chaired by the National Center for Electronics Recycling (NCER) in partnership with EPA and other interested parties.

· Piloting a private multi-state Third-Party Organization (TPO) to support electronics recycling efforts in the Pacific Northwest. This project will explore how a multi-state TPO could assume responsibilities on behalf of manufacturers, like contracting for recycling services across state lines. This effort is being chaired by the NCER and the WA Department of Ecology with eight electronics manufacturers.

Even if the key collaborations noted above are implemented, there will remain some gaps in needed infrastructure. In the course of developing, implementing, and sharing information related to key infrastructure-related collaborations, EPA looks forward to working with stakeholders to identify and plan to address other infrastructure-related efforts.

How EPA will Work with Other Organizations Moving Forward:

EPA has been working with a wide range of stakeholders in a variety of fora, both domestically and, as appropriate, internationally. This approach has worked well, and we expect to continue to follow it in partnership with other federal agencies such as the Commerce Department and with the Federal Environmental Executive.

Conclusion

I hope that I have given you a sense of EPA's electronics goals and how we work with partners throughout the product chain to achieve shared responsibility for a greener, recovery-oriented product cycle. I look forward to answering any questions you may have.